

Appl. No. 09/810,387

REMARKS

Claims 1-29 and 37-44 are pending in the application with new claim 44 added herein.

Claims 1, 2, 4-23, and 25-29 stand rejected under 35 U.S.C. 102(b) as being anticipated by Fukui. Applicant requests reconsideration.

Claim 1 sets forth a CVD apparatus that includes, among other features, a deposition chamber defined by a chamber lid and a chamber body having similar thicknesses. The Office Action persists in the position that Fukui discloses needle valve holder 7 as having a similar thickness to fence 14. The Office discounts Applicant's previous assertions regarding Fukui's failure to disclose the indicated limitation of claim 1. For support the Office relies upon portions of MPEP 2125 that favor the Office's position, but otherwise ignore other parts of MPEP 2125 that ultimately undermine and invalidate the Office's position.

Specifically, Applicant acknowledges that arguments based upon measurement of features in drawings are of little value. Even so, MPEP 2125 places strict limitations upon the Office's use of drawings in anticipating claim limitations. For example, MPEP states that drawings can anticipate claims when they clearly show the structure that is claimed. Also, the drawings must show all of the claimed structures and how they are put together. When a reference does not state that the drawings are to scale and is silent as to dimensions, the descriptions and drawings can be relied upon only "for what they would reasonably teach one of ordinary skill in the art." Applicant asserts that the Office takes an unreasonable position in alleging that Fukui discloses a chamber lid and a chamber body having similar thicknesses.

S:\M22\1559\04.DOC A2709271729N

Appl. No. 09/810,387

Clearly, Fukui contains no express disclosure of the subject claim limitation. Even so, the Office infers that such limitation is shown in Fig. 1. That is, the Office relies upon an argument that a chamber lid and a chamber body having similar thicknesses is inherent in Fukui. The mere fact that a certain thing may result from a given set of circumstances is not sufficient to establish inherency. Instead, there must exist a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.

No teachings whatever exist within Fukui regarding the thickness of fence 14, particularly in relation to needle valve holder 7. Column 4, lines 6-8 of Fukui merely state that fence 14 is "for effectively guiding the sprayed solution to the substrate." No other portion of Fukui offering some indication of the thickness of fence 14 can be identified. Accordingly, no basis exists upon which the Office may rely to determine that fence 14 and needle valve holder 7 necessarily have similar thicknesses. The Office can only rely upon the specification and drawings of Fukui "for what they would reasonably teach one of ordinary skill in the art," as stated in MPEP 2125. Pursuant to the express disclosure of Fig. 1 and the description in Fukui, no requirement exists for the thickness of fence 14 and needle valve holder 7 to be similar and it is entirely possible for such thickness to be widely different. The similar thicknesses set forth in claim 1 do not necessarily flow from the teachings of Fukui. At least for such reason, Fukui fails to disclose every limitation of claim 1 and does not anticipate claim 1.

Claim 1 also sets forth, among other features, a valve body having an entirety of a seat within the chamber lid or body thickness between an innermost and an

Appl. No. 09/810,387

outermost surface of the chamber lid or body. As indicated above, needle valve holder 7 cannot be considered to constitute part of the structural features in Fukui forming the claimed chamber lid and chamber body due to the absence of a reasonable determination that fence 14 and needle valve holder 7 have similar thicknesses. Thus, no conclusion can be drawn from Fukui that the valve seat of needle valve holder 7 is entirely within the thickness between the innermost and outermost surfaces of fence 14.

A primary flaw in the rejections alleged to date by the Office includes the persistent reliance upon a reference that is silent as to structural features and dimensional relationships to anticipate claims that expressly set forth structural features and dimensional relationships. Accordingly, the Office's allegations constitute mere assumptions regarding teachings of Fukui rather than assertions of actual features expressly disclosed in such reference. At best, such reliance constitutes an unreasonable and ineffective allegation of anticipation. However, Applicant also asserts that claim 1 is not obvious in view of Fukui since no suggestion exists in the prior art to make the claimed device and all of the claimed limitations are not suggested by the prior art.

Claims 2-8 and 37 depend from claim 1 and are patentable at least for such reason as well as for the additional limitations of such claims not disclosed. For example, claim 37 sets forth that the chamber lid thickness is much less than a chamber lid width. To the extent that the Office relies upon needle valve holder 7 as disclosing the claimed chamber lid, needle valve holder 7 does not disclose the chamber lid of claim 37. Fig. 1 of the present specification provides one possible

Appl. No. 09/810,387

example of a chamber lid with a thickness that is much less than its width. Fig. 1 and elsewhere throughout Fukui fail to disclose or suggest the chamber lid of claim 37.

Again, Applicant acknowledges that arguments based upon measurement of drawing features are of little value. However, in the present case, no person of ordinary skill would construct needle valve holder 7 of Fukui such that it possessed a thickness much less than its width. That is, Fig. 1 may only be relied upon for what it would reasonably teach one of ordinary skill in the art. It would be unreasonable to propose that a person of ordinary skill might find Fukui to disclose or suggest forming needle valve holder 7 with a thickness of much less than its width. In the context of Fukui, such a modification is meaningless. Needle valve holder 7 is expressly disclosed in Fukui as forming part of ultrasonic wave sprayer 1. No advantage, basis in fact, or technical reasoning exist to support a determination that needle valve holder 7 might be formed with dimensions that disclose the subject matter of claim 37. Only the Applicant's own specification discloses the claimed dimensions.

Page 4 of the Office Action alleges a motivation for the modification as providing added structural integrity and/or accommodating a requisite dimension of substrate 17. However, Fukui does not disclose that any improvement in structural integrity will result from making the proposed modification. Also, Fukui does not disclose that any better accommodation of substrate 17 will result from making the proposed modification. Accordingly, the Office's allegations of a motivation to modify Fukui are unfounded and Fukui does not disclose or suggest the subject matter of claim 37.

Claim 9 sets forth a CVD apparatus that includes, among other features, a deposition chamber having a lid and a body with similar thicknesses, a process

Appl. No. 09/810,387

chemical opening completely through the lid, and an isolation mechanism proximate the chemical opening. The lid is integral to the isolation mechanism. As may be appreciated from the discussion above regarding the deficiencies of Fukui as applied to claim 1, Fukui fails to disclose a lid and a body with similar thicknesses. Since needle valve holder 7 of Fukui does not disclose the lid of claim 9, Fukui also fails to disclose a lid integral to the isolation mechanism of claim 9. At least for such reason, Fukui does not anticipate claim 9. Claims 10-14 depend from claim 9 and are not anticipated at least for such reason as well as for the additional limitations of such claims not disclosed.

Claim 15 sets forth a CVD apparatus that includes, among other features, a deposition chamber having a lid and a body with similar thicknesses and a valve body including a portion of the lid as part of the valve body. As may be appreciated from the above discussion regarding the deficiencies of Fukui as applied to claim 1, Fukui fails to disclose a lid and a body with similar thicknesses. Since needle valve holder 7 fails to disclose the lid of claim 15, Fukui also fails to disclose a valve body including a portion of the lid as a part of the valve body. At least for such reasons, Fukui fails to disclose every limitation of claim 15. Claims 16-25 and 26 depend from claim 15 and are not anticipated at least for such reason as well as for the additional limitations of such claims not disclosed.

Claim 27 sets forth a CVD apparatus that includes, among other features, a deposition chamber having a lid and a body with similar thicknesses, a valve body having a housing and a seat, and at least a part of the housing including at least a part of an outer surface of the lid, at least a part of an opening sidewall of the lid, or both. At

Appl. No. 09/810,387

least a part of the seat includes at least a part of the inner surface of the lid, at least a part of the opening sidewall of the lid, or both. As may be appreciated from the discussion above regarding the deficiencies of Fukui as applied to claim 1, Fukui fails to disclose the chamber lid and body with similar thicknesses, as set forth in claim 27. As such, needle valve holder 7 of Fukui cannot be considered to disclose the lid of claim 27. At least for such reason, Fukui also fails to disclose the housing of claim 27 including at least a part of the outer surface of the lid, at least a part of the opening sidewalls of the lid, or both. Fukui additionally fails to disclose at least a part of the seat including at least a part of the inner surface of the lid, at least a part of the opening sidewalls of the lid, or both. Claims 28, 29, and 40 depend from claim 27 and are not anticipated at least for such reason as well as for the additional limitations of such claims not disclosed.

Applicant asserts that Fukui fails to disclose each and every limitation of claims 1, 2, 4-23, and 25-29 and does not anticipate such claims. Applicant requests allowance of such claims in the next Office Action.

Claims 3 and 37-40 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Fukui. Applicant requests reconsideration. Claims 3 and 37-40 depend from the claims discussed above as not anticipated by Fukui. As may be appreciated from the discussion above regarding the deficiencies of Fukui as applied to claims 1 and 37, Fukui fails to suggest the subject matter of claims 3 and 37-40. Applicant requests allowance of such claims in the next Office Action.

Claim 24 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Fukui in view of Waterfield. Applicant requests reconsideration. Claim 24 depends

Appl. No. 09/810,387

from claim 20 and sets forth, among other features, that the valve body further includes a plug and a diaphragm between the plug and an annular platform. Page 5 of the Office Action states that it would be obvious to replace the Fukui needle valve with the Waterfield diaphragm valve. However, Applicant notes that nozzle 3a of Fukui serves the important function of atomizing the solution delivered through wave sprayer 1. Substitution of needle valve 6 with a diaphragm valve would eliminate nozzle 3a and destroy an intended purpose of ultrasonic waves sprayer 1. Accordingly, the substitution suggested by the Office Action is improper. At least for such reason, claim 24 is patentable over Fukui in view of Waterfield. Applicant requests allowance of claim 24 in the next Office Action.

Claims 41-43 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Fukui in view of Jeong. Applicant requests reconsideration.

Claim 41 sets forth a CVD apparatus that includes, among other features, a valve body being adapted to receive external control signals. Page 5 of the Office Action alleges that it would be obvious to modify Fukui to receive external control signals by adding the Jeong control means. However, Applicant notes that ultrasonic wave sprayer 1 of Fukui is incapable of being modified to receive external control signals without destroying the atomizing function of valve 6. As described in column 4, lines 49-69, control of ultrasonic wave sprayer 1 instead occurs by feedstock pressure and spring 5.

Regardless of whether Jeong discloses control means for valves, Jeong fails to disclose adapting a valve body of Fukui to receive external control signals. Flow control in Fukui in wave sprayer 1 already occurs via feedstock pressure. No motivation exists

Appl. No. 09/810,387

or is disclosed in Jeong for modifying a valve body of ultrasonic wave sprayer 1 to receive external control signals instead of regulating feedstock pressure. Modification of wave sprayer 1 in such manner would apparently destroy the intended purpose of controlling flow via feedstock pressure. At least for such reason, claim 41 is patentable over Fukui in view of Jeong. Claims 42 and 43 depend from claim 41 and are patentable at least for such reasons as well as for the additional limitations of such claims not disclosed or suggested.

Applicant notes that an initialed copy of Form PTO-1449 has not yet been received for an IDS previously filed on November 3, 2003. Applicant requests consideration of the references listed in the IDS and return of an initialed copy with the next Office Action.

Applicant traverses the grounds for rejection stated in paragraphs 9 and 15 beginning on respective pages 6 and 7 as being erroneous as a matter of law.

Applicant herein establishes adequate reasons supporting allowability of claims 1-29 and 37-43 and requests allowance of all such pending claims in the next Office Action.

Respectfully submitted,

Dated: 27 Sep 2004

By: 

James E. Lake
Reg. No. 44,854